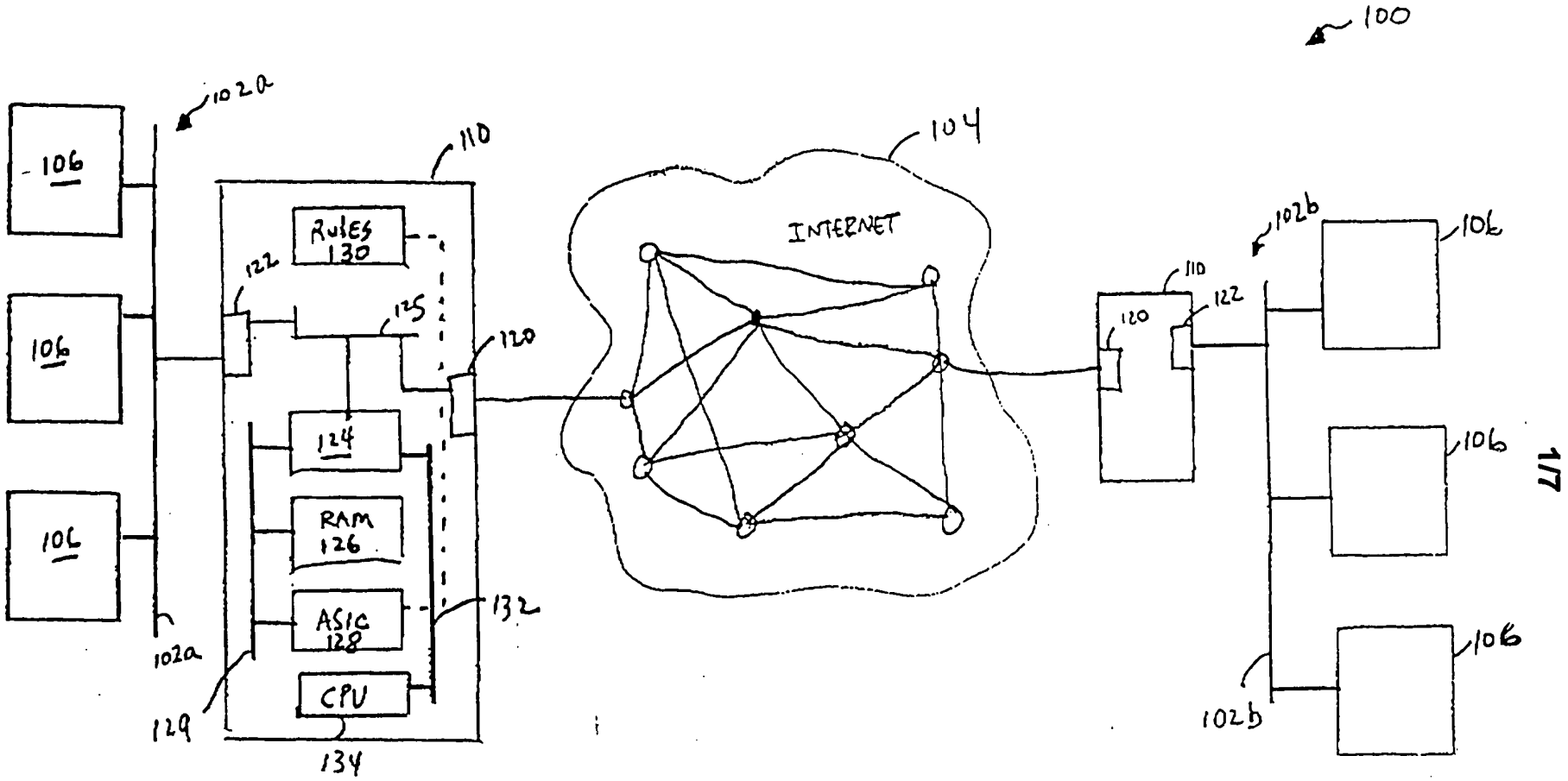
100
102a
106
106
106
110
Rules
130
122
125
120
124
RAM
126
ASIC
128
CPU
129
132
134
102a
104
INTERNET
110
120
122
102b
106
106
106
102b

Fig. 1

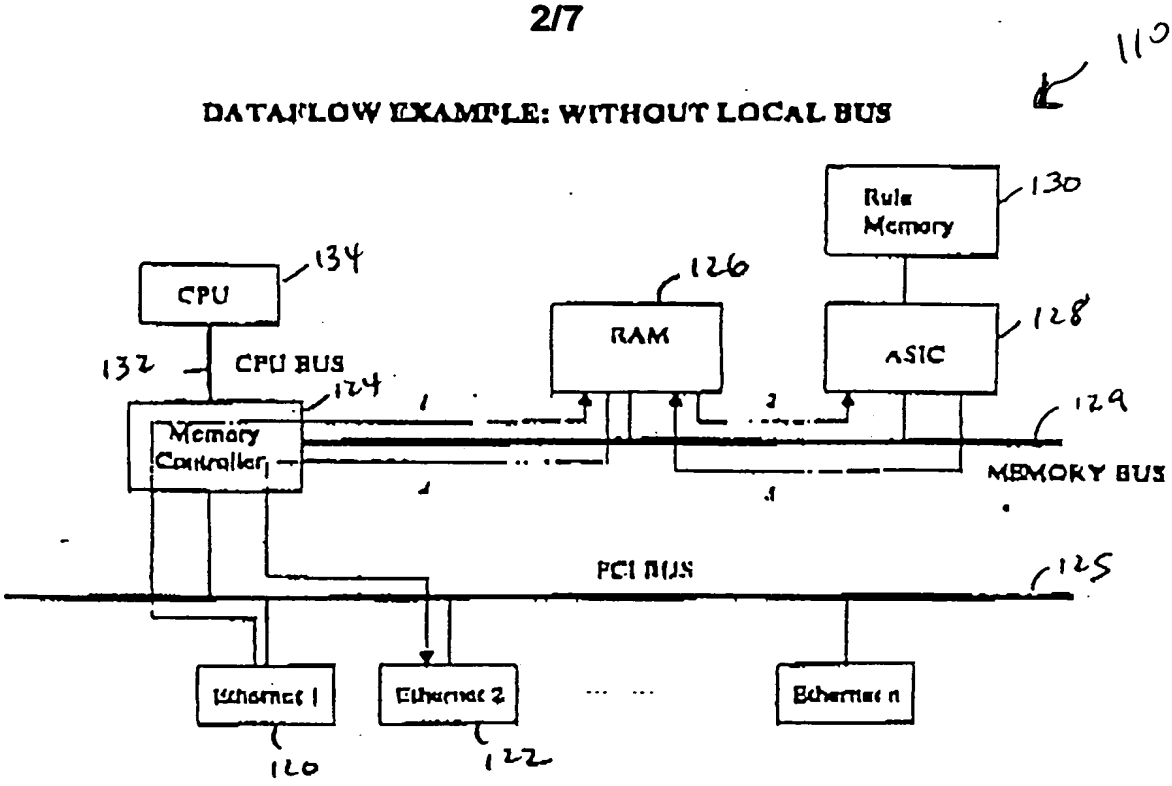
110
DATAFLOW EXAMPLE: WITHOUT LOCAL BUS
Rule Memory
130
CPU
134
RAM
126
ASIC
128
132
CPU BUS
124
Memory Controller
129
MEMORY BUS
PCI BUS
125
Ethernet 1
Ethernet 2
Ethernet n
120
122

FIG. 2a

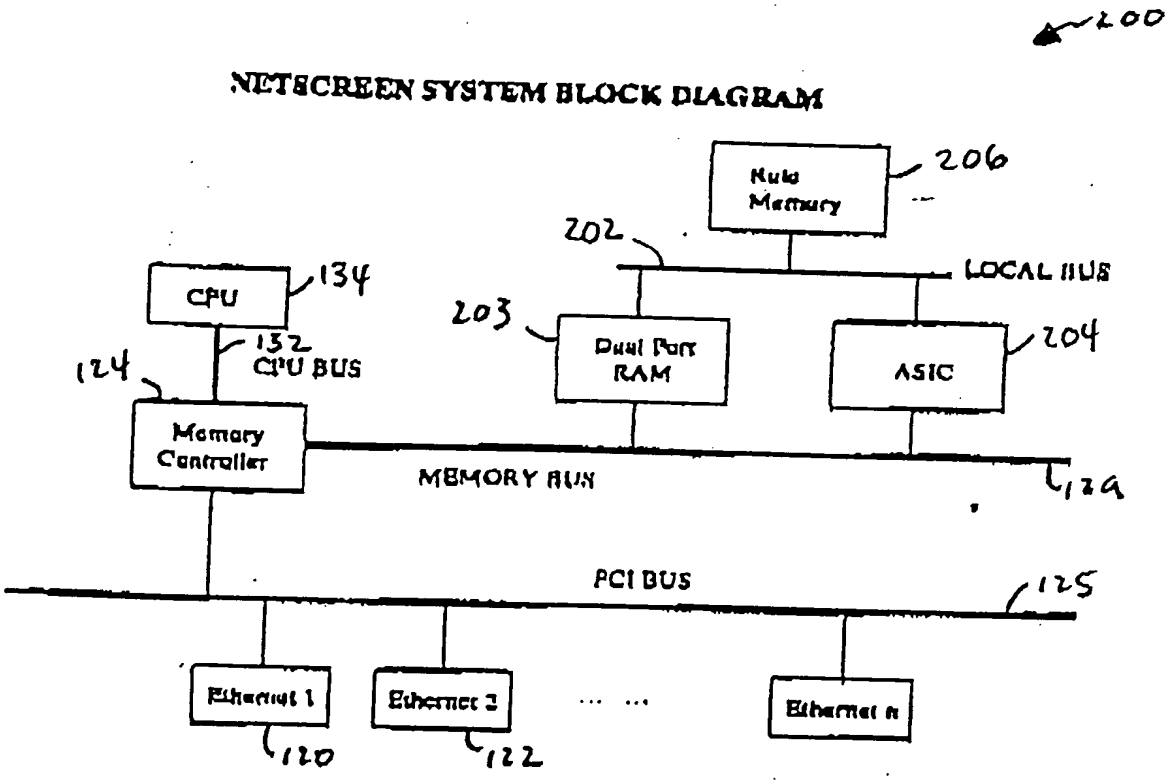
200
NETSCREEN SYSTEM BLOCK DIAGRAM
Rule Memory
206
202
LOCAL BUS
CPU
134
203
Dual Port RAM
ASIC
204
132
CPU BUS
124
Memory Controller
MEMORY BUS
129
PCI BUS
125
Ethernet 1
Ethernet 2
Ethernet n
120
122

FIG. 2b

08STE0" 69E536E0

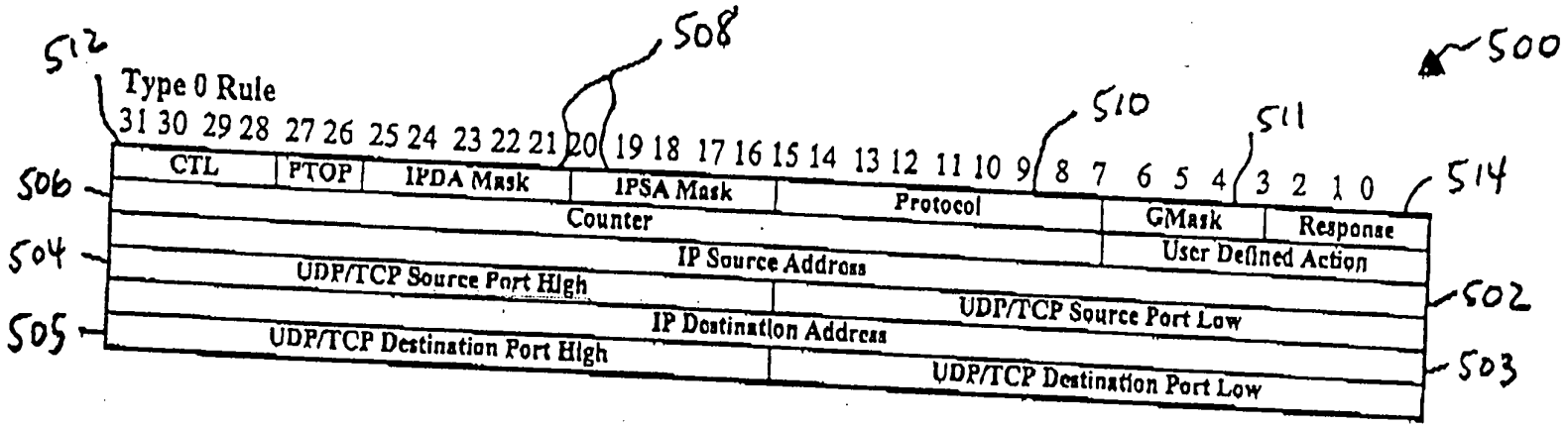

FIG. 3

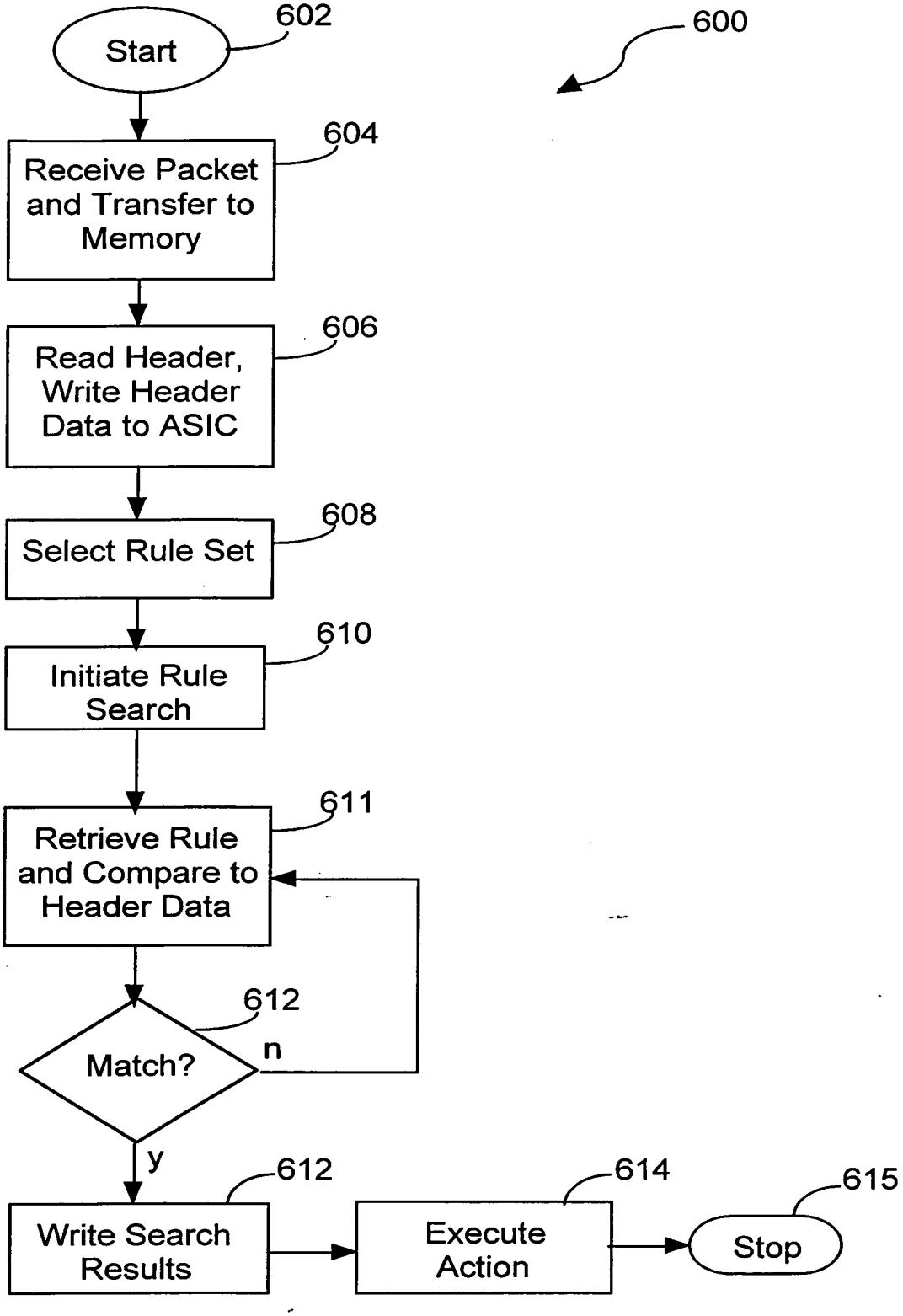
600
602
Start
604
Receive Packet and Transfer to Memory
606
Read Header, Write Header Data to ASIC
608
Select Rule Set
610
Initiate Rule Search
611
Retrieve Rule and Compare to Header Data
612
Match?
n
y
612
Write Search Results
614
Execute Action
615
Stop

FIG. 4

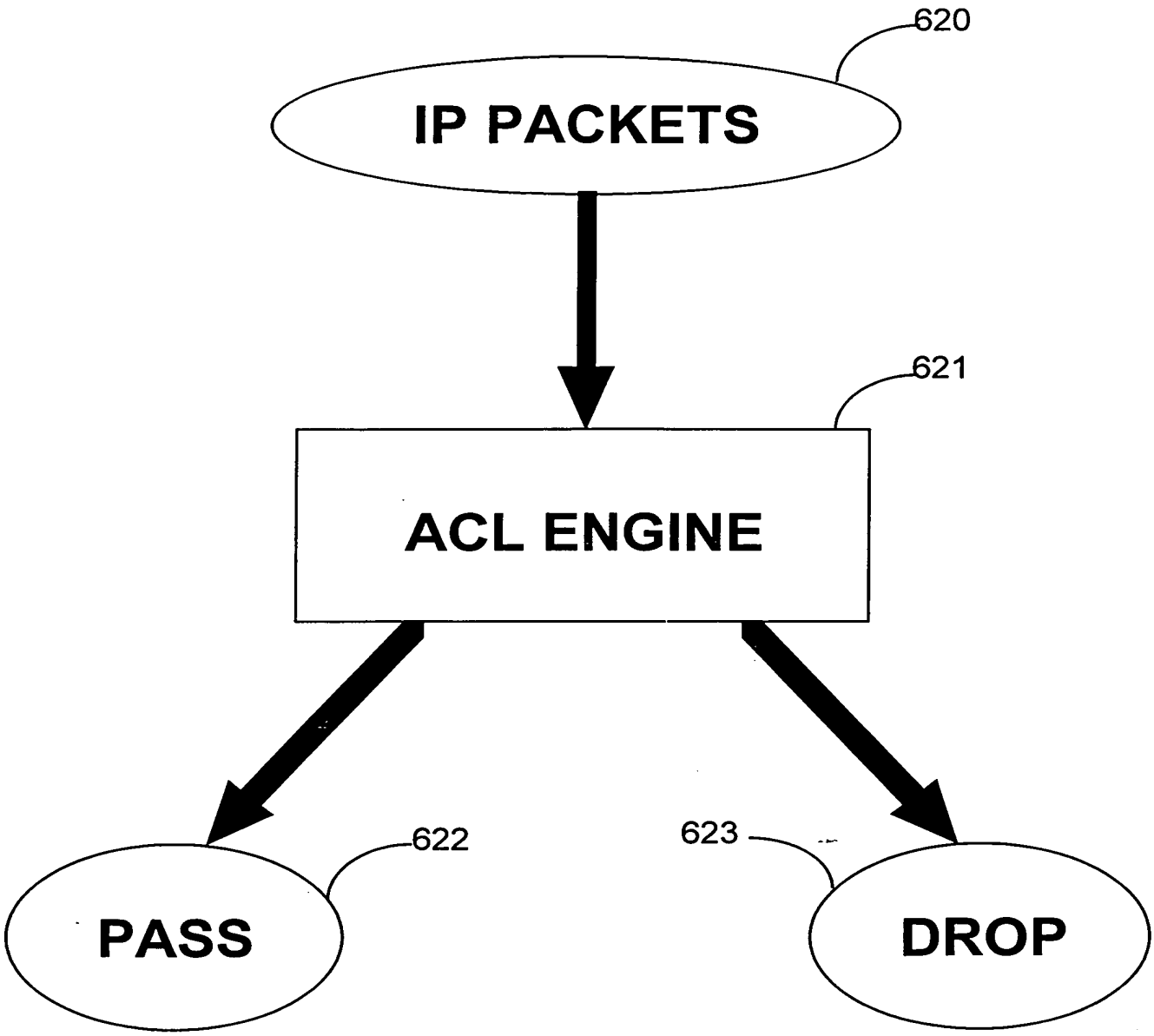

FIG. 5
(Prior Art)

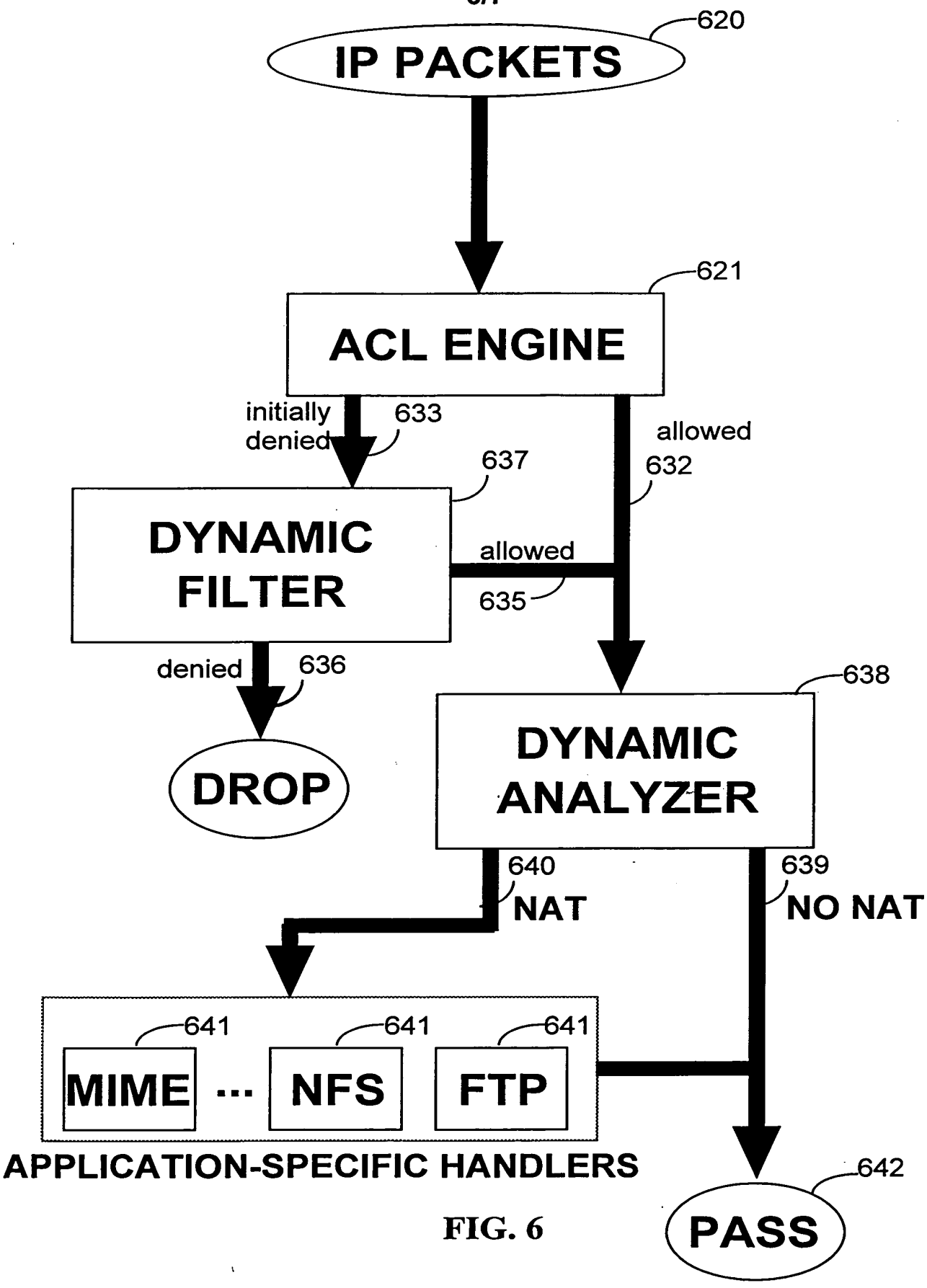
IP PACKETS
620
ACL ENGINE
621
initially denied
633
allowed
632
DYNAMIC FILTER
637
allowed
635
denied
636
DROP
DYNAMIC ANALYZER
638
640
NAT
639
NO NAT
641
MIME
641
NFS
641
FTP
APPLICATION-SPECIFIC HANDLERS
642
PASS

FIG. 6

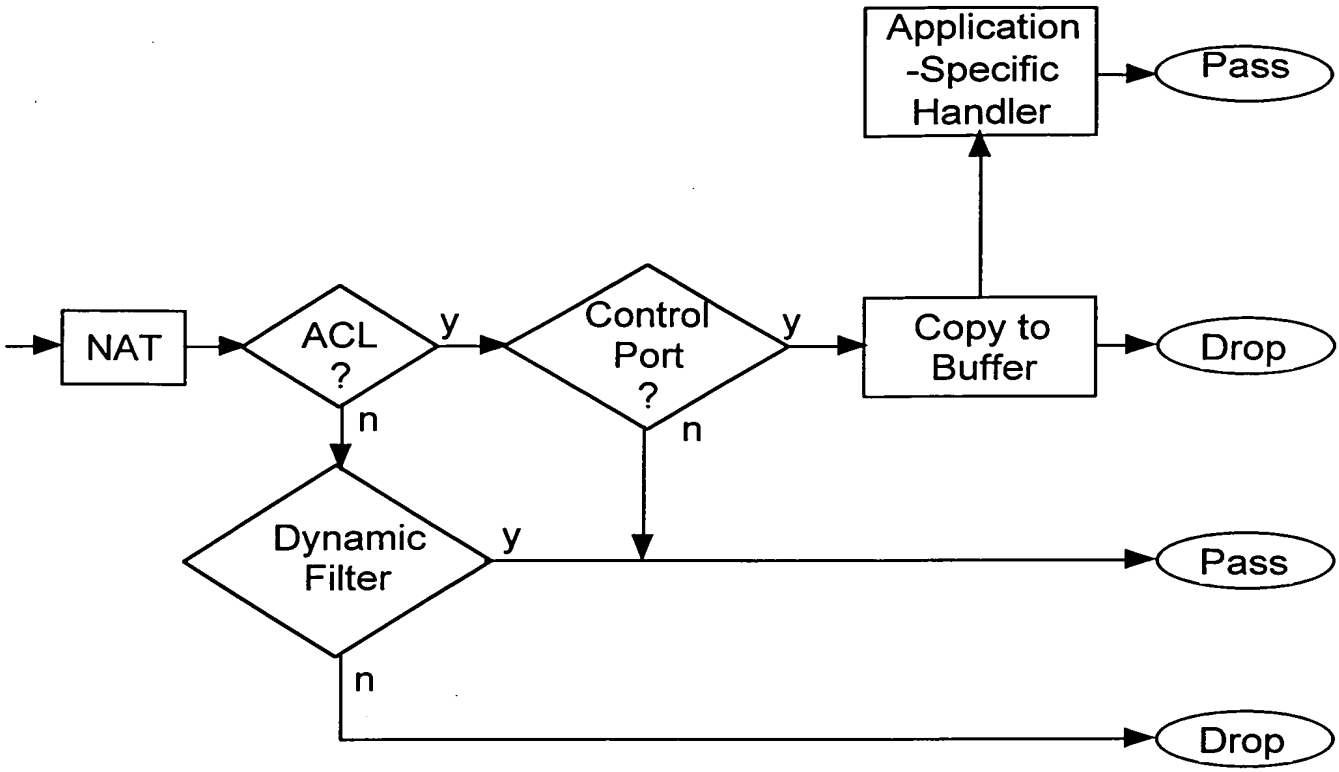
Application
-Specific
Handler
Pass
NAT
ACL
?
y
Control
Port
?
y
Copy to
Buffer
Drop
n
n
Dynamic
Filter
y
Pass
n
Drop

FIG. 7a

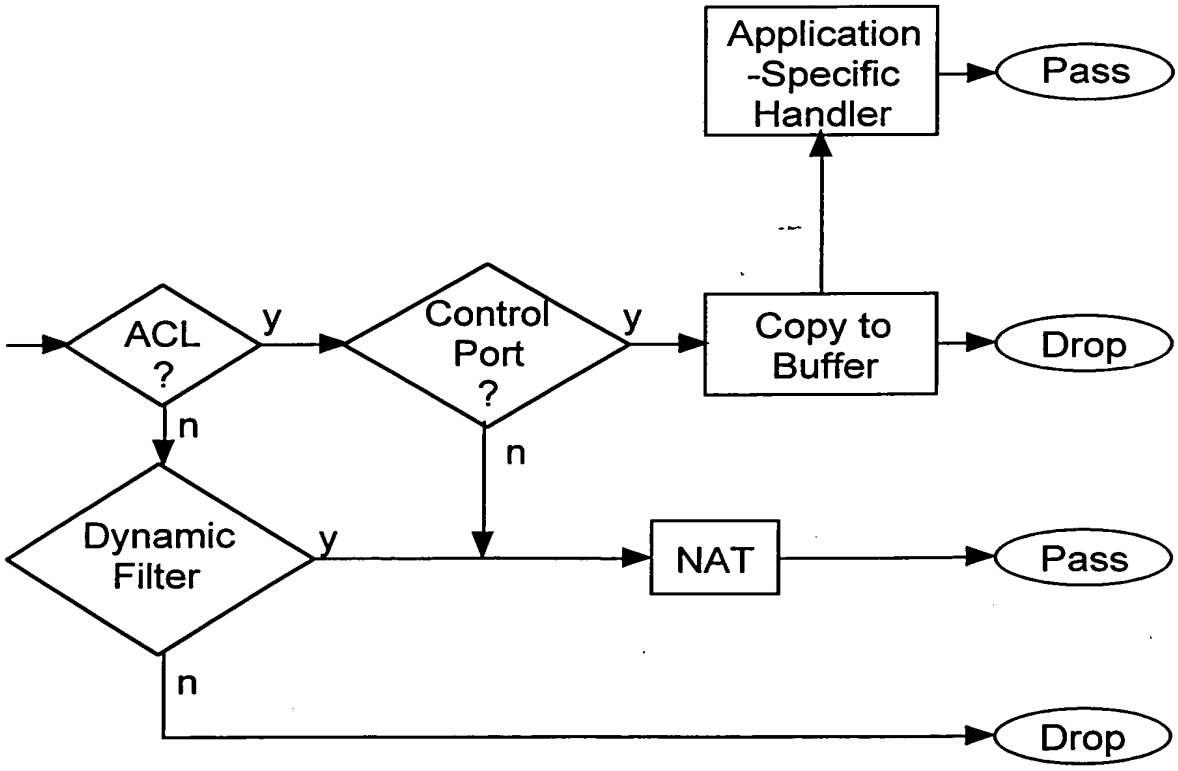
Application
-Specific
Handler
Pass
ACL
?
y
Control
Port
?
y
Copy to
Buffer
Drop
n
n
Dynamic
Filter
y
NAT
Pass
n
Drop

FIG. 7b